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ABSTRACT

A checklist for evaluating courseware is presented to help American Council of Evaluation (ACE) review teams determine whether a software package is suitable for use with adult learners. Courseware, which is software used in instructional programming, may include various mechanical devices (e.g., discs, tapes, computer programs), as well as training manuals, correspondence course guides, or comparable print materials used with hardware. ACE course review teams need to assess the quality and use of courseware in order to make credit recommendations for courses under review. Since most courseware is relatively new and untested, it is important to evaluate whether courseware functions effectively in helping learners achieve announced course objectives. The checklist questions cover the following: user guides or instruction manuals for using the courseware, dimensions of quality that are incorporated in sequencing of subject matter, records concerning the prior use of the materials, the instructor's role, the extent and scope of mechanical feedback, the extent of user control over the learning process, the use of graphics and sound, narrative displays, the flexibility of the courseware format, and integration of the courseware with the overall learning plan. A form for evaluating the checklist is included. (SW)

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COURSEWARE EVALUATION CHECKLIST

APPROVED BY AMERICAN COUNCIL ON EDUCATION'S COMMISSION ON EDUCATIONAL CREDIT AND CREDENTIALS AT ITS MEETING ON SEPTEMBER 24-25, 1984

U.S. DEPARTMENT OF EDUCATION
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Microcomputers, interactive television, videotape systems, and similar mechanical and electronic devices for effecting telecommunications are making possible a revolution in systems for delivery of programs and courses to adult learners. This educational hardware is accompanied by incorporated software (e.g., computer programs, videotapes, videodiscs, etc.).

Courseware is software that is used in instructional programming that is part of a course or learning program. Courseware may include various mechanical devices, (e.g., discs, tapes, computer programs); it may also include training manuals, correspondence course guides, or comparable print materials designed for use in conjunction with hardware.

As they exercise their professional judgment to determine credit recommendations for courses under review, ACE course review teams need to assess the quality and use of courseware. Does such courseware function effectively in helping learners achieve announced course objectives? Such evaluation is especially important now because most courseware is relatively new and untested.

The following checklist is designed to facilitate appropriate review of courseware by ACE review teams. Because of the infinite variety of courseware now available, as well as the variety of differences in the contexts in which such courseware is used, it is not appropriate to specify "correct" answers to any specific questions that may be raised about its use in particular situations. Nonetheless, appropriate questions must be raised during the evaluative process so that review teams can generate relevant data and arrive at answers. To that end, this Courseware Evaluation Checklist has been prepared.

I. GENERAL QUESTIONS

Answers to the following questions are basic to understanding and evaluating the courseware under review:

A. For whom is this course, module, or lesson designed?

B. What is the courseware that is being evaluated?

C. What kind of delivery system (computers, instructor/tutor network, etc.) should be in place in order to use the courseware that is being evaluated?

D. What kind of delivery system actually exists for use of the courseware being evaluated?

E. Was the courseware field tested in advance of its use? (If so, ask to see field test results.)

II. INSTRUCTIONS

Printed and/or on-line instruction manuals for using the courseware should be available for instructors and tutors or mentors (if any), as well as for learners (See definitions on page ____). The following questions pertain to such manuals or user-guides.

A. Is an instructor's manual provided?	Yes	No	N/A
B. Does the instructor's manual indicate the qualifications that should be possessed by persons who use it?	Yes	No	N/A
C. Are instructions in the instructor's manual easy to read and understand?	Yes	No	N/A
D. Are instructions in the instructor's manual easy to apply?	Yes	No	N/A
E. Does the instructor's manual have a complete table of contents?	Yes	No	N/A
F. Does the instructor's manual have a complete and accurate index?	Yes	No	N/A
G. Is a tutor's/mentor's manual provided?	Yes	No	N/A

H. Does the tutor's/mentor's manual indicate the qualifications that should be possessed by persons who use it?	Yes	No	N/A
I. Are instructions in the tutor's/-mentor's manual easy to read and understand?	Yes	No	N/A
J. Are instructions in the tutor's/mentor's manual easy to apply?	Yes	No	N/A
K. Are instructions in the tutor's/-mentor's manual for using the equipment (hardware and courseware) provided?	Yes	No	N/A
L. Are instructions in the tutor's/-mentor's manual for using the equipment easy to read and understand?	Yes	No	N/A
M. Are instructions in the tutor's/-mentor's manual for using the equipment easy to apply?	Yes	No	N/A
N. Does the tutor's/mentor's manual have a complete table of contents?	Yes	No	N/A
O. Does the tutor's/mentor's manual have a complete and accurate index?	Yes	No	N/A
P. Is a learner's guide provided?	Yes	No	N/A
Q. Are instructions in the learner's guide easy to read and understand?	Yes	No	N/A
R. Are instructions in the learner's guide easy to apply?	Yes	No	N/A
S. Are instructions for use of the learner's guide incorporated in the courseware?	Yes	No	N/A
1. If incorporated in the courseware, may instructions be bypassed if not needed by the learner?	Yes	No	N/A
2. If incorporated in the courseware, may instructions be reviewed by the learner at any time without having to rerun the entire program?	Yes	No	N/A
T. Is selection of program options as part of the instructions in the learner's guide quick and simple?	Yes	No	N/A

U. Is a demonstration exercise provided as part of the instructions in the learner's guide?	Yes	No	N/A
V. Does the learner's guide have a complete table of contents?	Yes	No	N/A
W. Does the learner's guide have a complete and accurate index?	Yes	No	N/A

Comments:

III. SEQUENCING

To be effective, courseware must introduce instructional topics in logical sequence. There should, in addition, be built-in flexibility. The following questions are designed to assist in getting at the dimensions of quality that are incorporated in sequencing of subject matter.

A. Are the learning outcomes or objectives made clear to the learner at the outset?	Yes	No	N/A
B. Can the learner choose a preferred nonlinear sequence?	Yes	No	N/A
C. Is content presented in a logical way?	Yes	No	N/A
D. Can the learner be assigned special activities to correct a deficiency?	Yes	No	N/A
E. Can the learner be directed to skip unnecessary activities?	Yes	No	N/A
F. Are instructional materials organized so that the learner must demonstrate mastery of one module before proceeding to another?	Yes	No	N/A
G. Is "mastery" (foregoing question) defined (e.g., 70%, 80%, all items correct)?	Yes	No	N/A

H. Does the narrative direct the learner through a consistent progression of skills or knowledge? Yes No N/A

I. May the instructor determine sequence for the learner? Yes No N/A

J. Does the learner correct errors before moving to new material? Yes No N/A

K. After several unsuccessful attempts to answer a question, is the learner directed to a new explanation? Yes No N/A

L. Is there random generation so that no one set of exercises, words, or items ever appears in the same order the next time they are presented? Yes No N/A

M. Is material in the package presented in manageable smaller units? Yes No N/A

N. Does material in a program stimulate application of skills or knowledge previously learned? Yes No N/A

Comments:

IV. RECORDS/SECURITY

Recordkeeping is a function vital to any program of quality maintenance. Periodic reevaluation of learning outcomes will require appropriate records bearing on prior use of the materials.

A. Can learner personal data records be run off on a printer or displayed on a terminal? Yes No N/A

B. Can test answers be run off on a printer or displayed on a terminal? Yes No N/A

C. Does the learner receive a score or some type of evaluation or performance indicator at the conclusion of the learning project?	Yes	No	N/A
D. Can data from a module, lesson, or course (e.g., test results, questions) be collected and stored?	Yes	No	N/A
E. Are records stored on magnetic devices for future retrieval?	Yes	No	N/A
F. Is there a protocol specifying who has access to records?	Yes	No	N/A

Comments:

V. INSTRUCTOR ROLE

The instructor is defined as the person(s) who has ultimate responsibility for results achieved in the program. Tutors or mentors are also frequently used in programs for which courseware is designed. These individuals are facilitators of learning and ordinarily work under the general direction of instructors or others having appropriate academic qualifications relating to subject matter of the course, module, or lesson.

A. Is the instructor/tutor informed of the curricular role (mainline, supplementary adjunct, management systems, other) the courseware is designed to play?	Yes	No	N/A
B. Is the instructor/tutor informed of the purpose (drill and practice, tutorial, gaming, simulation, problem-solving) the courseware is designed to fulfill?	Yes	No	N/A

C. Can the learner summon an instructor/tutor by pressing a keyboard button?	Yes	No	N/A
D. Can the learner use a toll-free number or make a collect call to get help from an instructor/tutor?	Yes	No	N/A
E. Can the learner effect two-way communication with an instructor/tutor by pushing a keyboard button?	Yes	No	N/A
F. Can the instructor/tutor end the program before the learner has completed all of it?	Yes	No	N/A
G. Can the instructor/tutor change the parameters of the program (e.g., number of problems to be completed, number of examples provided, times of tests changed)?	Yes	No	N/A
H. Can criteria for advancing the learner to a new lesson or difficulty level be adjusted by the instructor/tutor?	Yes	No	N/A
I. Does the program provide the instructor/tutor with a diagnosis of the learner's status, based on performance?	Yes	No	N/A
J. Are names, addresses and phone numbers of the instructor/tutors provided in instructional materials?	Yes	No	N/A

Comments:

VI. FEEDBACK

Vital measures of courseware quality are derived from the extent and scope of mechanical feedback that is possible. The following questions are designed to get at this aspect of instruction.

A. Is the learner pretested before undertaking the learning project?	Yes	No	N/A

B. Is feedback immediate?	Yes	No	N/A
1. After each item?	Yes	No	N/A
2. After each set of items?	Yes	No	N/A
3. After each quiz?	Yes	No	N/A
C. Is feedback relevant for the learner who is an adult? (e.g., doesn't talk down to learner)	Yes	No	N/A
D. Is feedback consistent, i.e., the same language used for each response to a correct answer, in content where such consistency is desirable?	Yes	No	N/A
E. Is feedback for a right answer more interesting than feedback for a wrong answer where such differentiation is appropriate?	Yes	No	N/A
F. Is a correct response not over-praised?	Yes	No	N/A
G. Is feedback nonthreatening?	Yes	No	N/A
H. Is there appropriate reward for achievement?	Yes	No	N/A
I. Does feedback encourage accuracy rather than speed?	Yes	No	N/A
J. Are cues or prompts effectively used as part of feedback?	Yes	No	N/A
K. Is there a variety in types of feedback provided (e.g., graphics, text, audio, combinations)?	Yes	No	N/A
L. Are reports of learner progress provided at appropriate intervals?	Yes	No	N/A
M. Is useful summary feedback provided at the end of the program?	Yes	No	N/A

N. Is the learner given a score at the end? Does it include number of correct responses? Percentage correct? Time per question? Overall time? Other relevant information?	Yes	No	N/A

Comments:

VII. USER CONTROL

Self-directed learning is a basic assumption that is implicit in the adult learning situation. If the learner is assumed to be in control of the learning process, then courseware that is used by a learner needs to facilitate such user control.

A. Can the learner determine where entry to the learning module, lesson, or course begins?	Yes	No	N/A
B. Can the learner specify the level of difficulty?	Yes	No	N/A
C. Can the learner receive assistance in specifying level of difficulty from answers to certain questions?	Yes	No	N/A
D. Can the learner leave and return to the program at any time?	Yes	No	N/A
E. Can the learner alter the rate of presentation of materials (e.g., rate texts rolls on screen or the rate that problems are presented)?	Yes	No	N/A
F. Can the learner use options (e.g., summon help or hint)?	Yes	No	N/A

G. Can the learner manipulate variables, one at a time? Yes No N/A

Comments:

VIII. GRAPHICS/SOUND

Graphics or sound as part of courseware, if skillfully applied, can greatly enhance the learning situation. Such aids to learning, however, should be skillfully blended with other dimensions of the courseware package that bear on quality.

A. Do graphics support program objectives? Yes No N/A

B. Are graphics appropriate for presentation to adult learners? Yes No N/A

C. Are graphics integral with related information -- not just used as decoration? Yes No N/A

D. Are graphics in color? Yes No N/A

E. Are graphics clear? Yes No N/A

F. Does action occur on the screen in a way that is helpful? Yes No N/A

G. Does computer-produced sound support program objectives? Yes No N/A

H. Is computer-produced sound used appropriate for programming for adult learners? Yes No N/A

I. Is computer-produced sound integral with related visual presentation -- not used to distract? Yes No N/A

J. Does display of graphics accomplish something that could not be improved by changing or adding narrative? Yes No N/A

Comments:

IX. NARRATIVE DISPLAYS

If a learner will spend hours in front of a screen in using courseware, the presentations on the screen need to be easy to read.

A. Do lines of text have enough space between them to facilitate easy reading?	Yes	No	N/A
B. Are all passages displayed in just one screening?	Yes	No	N/A
C. Are narrative displays uncrowded in overall appearance?	Yes	No	N/A
D. Does the screen clear completely before a new display appears?	Yes	No	N/A
E. Does the narrative display accomplish something that could not be improved by using graphics?	Yes	No	N/A

Comments:

X. FLEXIBILITY

Adults bring to a learning situation a wide variety of learning needs and learning styles. A rigid courseware format can greatly impede or even stop efforts to learn by individuals.

A. Is the module, lesson, or course flexible enough to serve the intended range of users?	Yes	No	N/A

B. Can content be altered by instructor or learner?	Yes	No	N/A
C. Can the program be used without moving from one work station to another?	Yes	No	N/A
D. Are options available to permit individuals or groups to work simultaneously?	Yes	No	N/A
E. Can the courseware be revised or updated easily and quickly?	Yes	No	N/A
F. Can the courseware be used in a variety of user environments?	Yes	No	N/A
G. Is access to the system easy, i.e., not requiring elaborate and time-consuming protocol codes, sign-ons, or other complexities before courseware can be used?	Yes	No	N/A
H. Can the learner obtain access to the system with minimum technological knowledge or skills?	Yes	No	N/A

Comments:

XI. INTEGRATION

Courseware cannot be intelligently used unless it is integral with the learning plan of which it is a part.

A. Does the module, lesson, or course test concepts and skills in a manner consistent to the way in which they were presented by an instructor or in supplementary print material?	Yes	No	N/A

B. Are instructions, input methods, and feedback consistent across several modules, lessons, or courses within a single package?	Yes	No	N/A
C. Are related packages containing modules, lessons, or courses coherent?	Yes	No	N/A
D. Does evaluation of learner performance occur in appropriately monitored circumstances, e.g., under supervision of a proctor?	Yes	No	N/A

Comments:

EVALUATION SURVEY
FOR
COURSEWARE EVALUATION CHECKLIST

To: Dr. Sylvia W. Galloway
Program Director
Program on Noncollegiate Sponsored Instruction

Note: After you have used the Courseware Evaluation Checklist, please forward your comments to the Program on Noncollegiate Sponsored Instruction of the American Council on Education, using this Evaluation Survey form. Simply complete the form, fold and seal it as instructed, and mail it. No postage is required if mailed in the United States.

1. Does this Checklist fulfill its purpose of facilitating adequate review of courseware used in instructional programs aimed at adults?

   _____ Completely

   _____ Partly

   _____ Not at all

   Comments:

2. Did you find the content to be stated clearly and completely?

   _____ Always yes

   _____ In general, yes

   _____ In general, no

   _____ Always no

   Comments:

3. Is the content presented in a format that is convenient to use?

   _____ Very easy to use

   _____ Fairly easy

   _____ Fairly difficult

   _____ Very difficult

   Comments:

4. Can you think of content items that might be added to the Checklist?

   _____ No

   _____ Yes, they are:

5. Did you find any of the Checklist items difficult to understand?

   _____ No

   _____ Yes (List their numbers below)

6. Would you recommend this Checklist to a colleague?

   _____ Yes

   _____ No (Please indicate why not)

General Comments:

THANK YOU!

Thanks!

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